

ABSTRACT OF THE DISCLOSURE

Height setting processing performed while measuring DC resistance of a monitor element formed on a substrate causes smearing (sag) in shielding layers formed above and below the monitor element with gap layers held therebetween, causing a short circuit between the monitor element and the shielding layers due to smearing. A recessed portion is formed in a lower shielding layer formed on the substrate, and an insulating layer is formed in the recessed portion. The monitor element is formed on the insulating layer with a lower gap layer formed therebetween. The formation of the insulating layer increases the distance between the monitor element and the lower shielding layer, thereby preventing electrical connection even when smearing occurs in the lower shielding layer. Alternatively, the monitor element is formed on the substrate with the lower gap layer formed therebetween, and the lower shielding layer formed below magnetoresistive elements is not formed below the monitor element. This prevents electrical connection between the lower shielding layer and the monitor element due to smearing, thereby preventing a short circuit in the monitor element during height setting processing.